

What is Claimed is:

1. A cryogenic vessel comprising:
 - a first, outer vessel assembly having an outer vessel and a liquid fill line;
 - a second, ullage space vessel having a bottom and disposed within said first, outer vessel, adjacent to the top of said first, outer vessel;
 - said liquid fill line assembly having a venturi assembly adjacent the bottom of said ullage space vessel; and
 - said venturi assembly structured to create a low pressure zone, relative to said ullage space vessel during a fill procedure whereby, during a fill procedure, fluid is drawn from said ullage space vessel into said fill line assembly.
2. The cryogenic vessel of Claim 1, wherein:
 - said fill line assembly extends through said ullage space vessel;
 - said venturi assembly includes a tubular body having an inner surface with a first diameter, an outer surface, and a venturi opening;
 - said venturi opening in fluid communication with said ullage space vessel; and
 - said fill line assembly having a second diameter, wherein said venturi assembly first diameter is smaller than said fill line assembly second diameter.
3. The cryogenic vessel of Claim 2, wherein said venturi opening is disposed adjacent to the bottom of the ullage space vessel.
4. The cryogenic vessel of Claim 3, wherein:
 - said ullage space vessel having a first and a second opening in said ullage space vessel sidewall;
 - said second opening disposed at the bottom of said ullage space vessel sidewall;
 - said fill line assembly further includes a first portion and a second portion;
 - said first portion extending through said ullage space vessel and coupled to said venturi assembly;
 - said venturi assembly extending through said ullage space vessel second opening; and

said second portion coupled to said venturi assembly and extending outside of said ullage space vessel.

5. The cryogenic vessel of Claim 4, wherein said second pipe portion includes a spray head.

6. The cryogenic vessel of Claim 5, wherein said first, outer vessel assembly includes a vent line extending through said outer vessel and into said ullage space vessel.

7. The cryogenic vessel of Claim 6, wherein said vent line is in communication with the first outer vessel.

8. The cryogenic vessel of Claim 5, wherein said vent line is in communication with the first outer vessel.

9. The cryogenic vessel of Claim 3, wherein:
said ullage space vessel has a plurality of openings in said ullage space vessel sidewall at the bottom of said ullage space vessel sidewall;
said fill line assembly further includes a first pipe portion and a second portion;
said first portion extending through said ullage space vessel and coupled to a plurality of venturi assemblies; and
each said venturi assembly extending through one of said ullage space vessel plurality of openings.

10. The cryogenic vessel of Claim 1, wherein said first, outer vessel assembly includes a vent line extending through said outer vessel and into said ullage space vessel.

11. The cryogenic vessel of Claim 10, wherein said vent line is in communication with the first outer vessel.

12. The cryogenic vessel of Claim 11, wherein said vent line is in communication with the first outer vessel.

13. The cryogenic vessel of Claim 1, wherein:
said fill line assembly extends below said ullage space vessel;
said ullage space vessel includes a drain pipe extending, and in fluid communication with, the bottom of said ullage space vessel and said fill line assembly; and
said drain pipe coupled to said fill line assembly at said venturi assembly.